LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Tait Environmental Management, Inc.
701 N. Park Center Drive
Santa Ana, CA 92705
ATTN: Ms. Clara Boeru

October 5, 2007

SUBJECT: Boeing Realty Corp. Bldg C-6 Facility, Data Validation

Dear Ms. Boeru,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on September 20, 2007. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 17471:

SDG #	Fraction
IQF0211, IQF0296, IQF0673	Volatiles, Wet Chemistry, Dissolved Gases

The data validation was performed under Tier 1, Tier 2 and Tier 3 guidelines. The analyses were validated using the following documents, as applicable to each method:

- USEPA, Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998

Please feel free to contact us if you have any questions.

Sincerely,

Stella Cuenco

Stella S. Cuenco
Project Manager/Senior Chemist

V:\LOGIN\TAIT\17471COV.wpd

Attachment 1

LDC #17471 (Tait Environmenal Management, Inc. / Boeing Realty Corp., Bldg C-6 Facility)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)		Diss. Gases (175)		SO_4 (300.0)		S= (376.2)		TOC (415.1)																					
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	IQF0211	09/20/07	10/11/07	1	0	1	0	1	0	1	0	1	0	Tier I																			
B	IQF0296	09/20/07	10/11/07	1	0	1	0	1	0	1	0	1	0																				
C	IQF0673	09/20/07	10/11/07	1	0	1	0	1	0	1	0	1	0																				
Total	B/SC			3	0	3	0	3	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15

Shaded cells indicate Tier III validation (all other cells are Tier II validation). Sample counts do not include MS, MSD, or DUP's.

17471ST.wpd

Boeing Realty Corp., Bldg C-6 Facility
Data Validation Reports
LDC# 17471

Volatiles

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: June 4, 2007

LDC Report Date: September 27, 2007

Matrix: Water

Parameters: Volatiles

Validation Level: Tier 1

Laboratory: TestAmerica

Sample Delivery Group (SDG): IQF0211

Sample Identification

IRZMW001A_WG060407_0001

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance data were not reviewed for Tier 1.

III. Initial Calibration

Initial calibration data were not reviewed for Tier 1.

IV. Continuing Calibration

Continuing calibration data were not reviewed for Tier 1.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

Internal standards data were not reviewed for Tier 1.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Volatiles - Data Qualification Summary - SDG IQF0211

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility
Volatiles - Laboratory Blank Data Qualification Summary - SDG IQF0211

No Sample Data Qualified in this SDG

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727 (Building 2)
Report Number: IQF0211

Sampled: 06/04/07
Received: 06/04/07

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQF0211-01 (IRZMW001A_WG060407_0001 - Water)					**Sampled: 06/04/07**				
Reporting Units: ug/l									
Trichloroethene	EPA 8260B	7F06006	26	100	**17000**	100	06/06/07	06/06/07	
Surrogate: 4-Bromofluorobenzene (80-120%)					*95 %*				
Surrogate: Dibromofluoromethane (80-120%)					*98 %*				
Surrogate: Toluene-d8 (80-120%)					*98 %*				
Sample ID: IQF0211-01RE1 (IRZMW001A_WG060407_0001 - Water)					**Sampled: 06/04/07**				
Reporting Units: ug/l									
Acetone	EPA 8260B	7F09008	220	500	ND	50	06/09/07	06/09/07	
Benzene	EPA 8260B	7F09008	14	50	ND	50	06/09/07	06/09/07	
Bromobenzene	EPA 8260B	7F09008	14	50	ND	50	06/09/07	06/09/07	
Bromochloromethane	EPA 8260B	7F09008	16	50	ND	50	06/09/07	06/09/07	
Bromodichloromethane	EPA 8260B	7F09008	15	50	ND	50	06/09/07	06/09/07	
Bromoform	EPA 8260B	7F09008	20	50	ND	50	06/09/07	06/09/07	
Bromomethane	EPA 8260B	7F09008	21	50	ND	50	06/09/07	06/09/07	
2-Butanone (MEK)	EPA 8260B	7F09008	240	250	ND	50	06/09/07	06/09/07	
n-Butylbenzene	EPA 8260B	7F09008	18	50	ND	50	06/09/07	06/09/07	
sec-Butylbenzene	EPA 8260B	7F09008	12	50	ND	50	06/09/07	06/09/07	
tert-Butylbenzene	EPA 8260B	7F09008	11	50	ND	50	06/09/07	06/09/07	
Carbon Disulfide	EPA 8260B	7F09008	24	50	ND	50	06/09/07	06/09/07	
Carbon tetrachloride	EPA 8260B	7F09008	14	25	ND	50	06/09/07	06/09/07	
Chlorobenzene	EPA 8260B	7F09008	18	50	ND	50	06/09/07	06/09/07	
Chloroethane	EPA 8260B	7F09008	20	100	ND	50	06/09/07	06/09/07	
Chloroform	EPA 8260B	7F09008	16	50	**18**	50	06/09/07	06/09/07	J
Chloromethane	EPA 8260B	7F09008	20	100	ND	50	06/09/07	06/09/07	
2-Chlorotoluene	EPA 8260B	7F09008	14	50	ND	50	06/09/07	06/09/07	
4-Chlorotoluene	EPA 8260B	7F09008	14	50	ND	50	06/09/07	06/09/07	
1,2-Dibromo-3-chloropropane	EPA 8260B	7F09008	48	100	ND	50	06/09/07	06/09/07	
Dibromochloromethane	EPA 8260B	7F09008	14	50	ND	50	06/09/07	06/09/07	
1,2-Dibromoethane (EDB)	EPA 8260B	7F09008	20	50	ND	50	06/09/07	06/09/07	
1,4-Dichlorobenzene	EPA 8260B	7F09008	18	50	ND	50	06/09/07	06/09/07	
1,2-Dichlorobenzene	EPA 8260B	7F09008	16	50	ND	50	06/09/07	06/09/07	
1,3-Dichlorobenzene	EPA 8260B	7F09008	18	50	ND	50	06/09/07	06/09/07	
Dichlorodifluoromethane	EPA 8260B	7F09008	13	50	ND	50	06/09/07	06/09/07	
1,2-Dichloroethane	EPA 8260B	7F09008	14	25	ND	50	06/09/07	06/09/07	
1,1-Dichloroethane	EPA 8260B	7F09008	14	50	ND	50	06/09/07	06/09/07	
1,1-Dichloroethene	EPA 8260B	7F09008	21	50	**68**	50	06/09/07	06/09/07	
cis-1,2-Dichloroethene	EPA 8260B	7F09008	16	50	**490**	50	06/09/07	06/09/07	
trans-1,2-Dichloroethene	EPA 8260B	7F09008	14	50	ND	50	06/09/07	06/09/07	
1,2-Dichloropropane	EPA 8260B	7F09008	18	50	ND	50	06/09/07	06/09/07	
2,2-Dichloropropane	EPA 8260B	7F09008	17	50	ND	50	06/09/07	06/09/07	
cis-1,3-Dichloropropene	EPA 8260B	7F09008	11	25	ND	50	06/09/07	06/09/07	

TestAmerica - Irvine, CA

Nicholas Marz
Project Manager

N/00407

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ANALYTICAL TESTING CORPORATION
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TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727 (Building 2)
Report Number: IQF0211

Sampled: 06/04/07
Received: 06/04/07

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQF0211-01RE1 (IRZMW001A_WG060407_0001 - Water) - cont.					**Sampled: 06/04/07**				
Reporting Units: ug/l									
1,1-Dichloropropene	EPA 8260B	7F09008	14	50	ND	50	06/09/07	06/09/07	
trans-1,3-Dichloropropene	EPA 8260B	7F09008	16	25	ND	50	06/09/07	06/09/07	
Ethylbenzene	EPA 8260B	7F09008	12	50	ND	50	06/09/07	06/09/07	
Hexachlorobutadiene	EPA 8260B	7F09008	19	50	ND	50	06/09/07	06/09/07	
2-Hexanone	EPA 8260B	7F09008	130	300	ND	50	06/09/07	06/09/07	
Iodomethane	EPA 8260B	7F09008	50	100	ND	50	06/09/07	06/09/07	
Isopropylbenzene	EPA 8260B	7F09008	12	50	ND	50	06/09/07	06/09/07	
p-Isopropyltoluene	EPA 8260B	7F09008	14	50	ND	50	06/09/07	06/09/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7F09008	16	50	ND	50	06/09/07	06/09/07	
Methylene chloride	EPA 8260B	7F09008	48	50	ND	50	06/09/07	06/09/07	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	7F09008	180	250	ND	50	06/09/07	06/09/07	
n-Propylbenzene	EPA 8260B	7F09008	14	50	ND	50	06/09/07	06/09/07	
Styrene	EPA 8260B	7F09008	8.0	50	ND	50	06/09/07	06/09/07	
1,1,1,2-Tetrachloroethane	EPA 8260B	7F09008	14	50	ND	50	06/09/07	06/09/07	
1,1,2,2-Tetrachloroethane	EPA 8260B	7F09008	12	50	ND	50	06/09/07	06/09/07	
Tetrachloroethene	EPA 8260B	7F09008	16	50	ND	50	06/09/07	06/09/07	
Tetrahydrofuran (THF)	EPA 8260B	7F09008	180	500	ND	50	06/09/07	06/09/07	
Toluene	EPA 8260B	7F09008	18	50	ND	50	06/09/07	06/09/07	
1,2,3-Trichlorobenzene	EPA 8260B	7F09008	15	50	ND	50	06/09/07	06/09/07	
1,2,4-Trichlorobenzene	EPA 8260B	7F09008	24	50	ND	50	06/09/07	06/09/07	
1,1,2-Trichloroethane	EPA 8260B	7F09008	15	50	ND	50	06/09/07	06/09/07	
1,1,1-Trichloroethane	EPA 8260B	7F09008	15	50	ND	50	06/09/07	06/09/07	
Trichlorofluoromethane	EPA 8260B	7F09008	17	100	ND	50	06/09/07	06/09/07	
1,2,3-Trichloropropane	EPA 8260B	7F09008	20	50	ND	50	06/09/07	06/09/07	
1,2,4-Trimethylbenzene	EPA 8260B	7F09008	12	50	ND	50	06/09/07	06/09/07	
1,3,5-Trimethylbenzene	EPA 8260B	7F09008	13	50	ND	50	06/09/07	06/09/07	
Vinyl acetate	EPA 8260B	7F09008	50	300	ND	50	06/09/07	06/09/07	
Vinyl chloride	EPA 8260B	7F09008	15	25	**24**	50	06/09/07	06/09/07	J
Xylenes, Total	EPA 8260B	7F09008	45	50	ND	50	06/09/07	06/09/07	
Surrogate: 4-Bromofluorobenzene (80-120%)					*97 %*				
Surrogate: Dibromofluoromethane (80-120%)					*105 %*				
Surrogate: Toluene-d8 (80-120%)					*97 %*				

TestAmerica - Irvine, CA

Nicholas Marz
Project Manager

K 100407

LDC #: 17471A1
SDG #: IQF0211
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Tier 1

Date: 9/26/07
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/4/07
II.	GC/MS Instrument performance check	N	
III.	Initial calibration	N	
IV.	Continuing calibration	N	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	IRZCMW003_WG060407_0001 MS/D
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: water

1 2	1-5 IRZMW001A_WG060407_0001	11	7F06006	21		31	
2		12	7F09008	22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: June 5, 2007

LDC Report Date: September 27, 2007

Matrix: Water

Parameters: Volatiles

Validation Level: Tier 2

Laboratory: TestAmerica

Sample Delivery Group (SDG): IQF0296

Sample Identification

IRZMW004_WG060507_0001
IRZMW004_WG060507_0001MS
IRZMW004_WG060507_0001MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination (r^2) were greater than or equal to 0.990 .

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
5/31/07	2-Butanone	0.032 (≥0.05)	IRZMW004_WG060507_0001 IRZMW004_WG060507_0001MS IRZMW004_WG060507_0001MSD 7F07029-BLK	J (all detects) UJ (all non-detects)	A

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
6/7/07	2-Butanone	0.033 (≥0.05)	IRZMW004_WG060507_0001 7F07029-BLK	J (all detects) UJ (all non-detects)	A

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Volatiles - Data Qualification Summary - SDG IQF0296

SDG	Sample	Compound	Flag	A or P	Reason
IQF0296	IRZMW004_WG060507_0001	2-Butanone	J (all detects) UJ (all non-detects)	A	Initial calibration (RRF)
IQF0296	IRZMW004_WG060507_0001	2-Butanone	J (all detects) UJ (all non-detects)	A	Continuing calibration (RRF)

Boeing Realty Corp., Bldg C-6 Facility
Volatiles - Laboratory Blank Data Qualification Summary - SDG IQF0296

No Sample Data Qualified in this SDG

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727 (Building 2)
Report Number: IQF0296

Sampled: 06/05/07
Received: 06/05/07

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQF0296-01 (IRZMW004_WG060507_0001 - Water)					**Sampled: 06/05/07**				
Reporting Units: ug/l									
cis-1,2-Dichloroethene	EPA 8260B	7F07007	6.4	20	**450**	20	06/07/07	06/07/07	
Trichloroethene	EPA 8260B	7F07007	5.2	20	**4000**	20	06/07/07	06/07/07	
Surrogate: 4-Bromofluorobenzene (80-120%)					*96 %*				
Surrogate: Dibromofluoromethane (80-120%)					*97 %*				
Surrogate: Toluene-d8 (80-120%)					*98 %*				
Sample ID: IQF0296-01RE1 (IRZMW004_WG060507_0001 - Water)					**Sampled: 06/05/07**				
Reporting Units: ug/l									
Acetone	EPA 8260B	7F07029	45	100	ND	10	06/07/07	06/08/07	
Benzene	EPA 8260B	7F07029	2.8	10	ND	10	06/07/07	06/08/07	
Bromobenzene	EPA 8260B	7F07029	2.7	10	ND	10	06/07/07	06/08/07	
Bromochloromethane	EPA 8260B	7F07029	3.2	10	ND	10	06/07/07	06/08/07	
Bromodichloromethane	EPA 8260B	7F07029	3.0	10	ND	10	06/07/07	06/08/07	
Bromoform	EPA 8260B	7F07029	4.0	10	ND	10	06/07/07	06/08/07	
Bromomethane	EPA 8260B	7F07029	4.2	10	ND	10	06/07/07	06/08/07	
2-Butanone (MEK)	EPA 8260B	7F07029	47	50	ND UJ	10	06/07/07	06/08/07	
n-Butylbenzene	EPA 8260B	7F07029	3.7	10	ND	10	06/07/07	06/08/07	
sec-Butylbenzene	EPA 8260B	7F07029	2.5	10	ND	10	06/07/07	06/08/07	
tert-Butylbenzene	EPA 8260B	7F07029	2.2	10	ND	10	06/07/07	06/08/07	
Carbon Disulfide	EPA 8260B	7F07029	4.8	10	ND	10	06/07/07	06/08/07	
Carbon tetrachloride	EPA 8260B	7F07029	2.8	5.0	ND	10	06/07/07	06/08/07	
Chlorobenzene	EPA 8260B	7F07029	3.6	10	ND	10	06/07/07	06/08/07	
Chloroethane	EPA 8260B	7F07029	4.0	20	ND	10	06/07/07	06/08/07	
Chloroform	EPA 8260B	7F07029	3.3	10	**100**	10	06/07/07	06/08/07	
Chloromethane	EPA 8260B	7F07029	4.0	20	ND	10	06/07/07	06/08/07	
2-Chlorotoluene	EPA 8260B	7F07029	2.8	10	ND	10	06/07/07	06/08/07	
4-Chlorotoluene	EPA 8260B	7F07029	2.9	10	ND	10	06/07/07	06/08/07	
1,2-Dibromo-3-chloropropane	EPA 8260B	7F07029	9.7	20	ND	10	06/07/07	06/08/07	
Dibromochloromethane	EPA 8260B	7F07029	2.8	10	ND	10	06/07/07	06/08/07	
1,2-Dibromoethane (EDB)	EPA 8260B	7F07029	4.0	10	ND	10	06/07/07	06/08/07	
1,4-Dichlorobenzene	EPA 8260B	7F07029	3.7	10	ND	10	06/07/07	06/08/07	
1,2-Dichlorobenzene	EPA 8260B	7F07029	3.2	10	ND	10	06/07/07	06/08/07	
1,3-Dichlorobenzene	EPA 8260B	7F07029	3.5	10	ND	10	06/07/07	06/08/07	
Dichlorodifluoromethane	EPA 8260B	7F07029	2.6	10	ND	10	06/07/07	06/08/07	
1,2-Dichloroethane	EPA 8260B	7F07029	2.8	5.0	ND	10	06/07/07	06/08/07	
1,1-Dichloroethane	EPA 8260B	7F07029	2.7	10	ND	10	06/07/07	06/08/07	
1,1-Dichloroethene	EPA 8260B	7F07029	4.2	10	**55**	10	06/07/07	06/08/07	
trans-1,2-Dichloroethene	EPA 8260B	7F07029	2.7	10	**7.3**	10	06/07/07	06/08/07	J
1,2-Dichloropropane	EPA 8260B	7F07029	3.5	10	ND	10	06/07/07	06/08/07	
2,2-Dichloropropane	EPA 8260B	7F07029	3.4	10	ND	10	06/07/07	06/08/07	
cis-1,3-Dichloropropene	EPA 8260B	7F07029	2.2	5.0	ND	10	06/07/07	06/08/07	

TestAmerica - Irvine, CA

Nicholas Marz
Project Manager

6/10/07

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing	Project ID: Boeing C-6 Torrance	
701 N. Parkcenter Drive	EM2727 (Building 2)	Sampled: 06/05/07
Santa Ana, CA 92705	Report Number: IQF0296	Received: 06/05/07
Attention: Clara Boeru		

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQF0296-01RE1 (IRZMW004_WG060507_0001 - Water) - cont.					**Sampled: 06/05/07**				
Reporting Units: ug/l									
1,1-Dichloropropene	EPA 8260B	7F07029	2.8	10	ND	10	06/07/07	06/08/07	
trans-1,3-Dichloropropene	EPA 8260B	7F07029	3.2	5.0	ND	10	06/07/07	06/08/07	
Ethylbenzene	EPA 8260B	7F07029	2.5	10	ND	10	06/07/07	06/08/07	
Hexachlorobutadiene	EPA 8260B	7F07029	3.8	10	ND	10	06/07/07	06/08/07	
2-Hexanone	EPA 8260B	7F07029	26	60	ND	10	06/07/07	06/08/07	
Iodomethane	EPA 8260B	7F07029	10	20	ND	10	06/07/07	06/08/07	
Isopropylbenzene	EPA 8260B	7F07029	2.5	10	ND	10	06/07/07	06/08/07	
p-Isopropyltoluene	EPA 8260B	7F07029	2.8	10	ND	10	06/07/07	06/08/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7F07029	3.2	10	ND	10	06/07/07	06/08/07	
Methylene chloride	EPA 8260B	7F07029	9.5	10	ND	10	06/07/07	06/08/07	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	7F07029	35	50	ND	10	06/07/07	06/08/07	
n-Propylbenzene	EPA 8260B	7F07029	2.7	10	ND	10	06/07/07	06/08/07	
Styrene	EPA 8260B	7F07029	1.6	10	ND	10	06/07/07	06/08/07	
1,1,1,2-Tetrachloroethane	EPA 8260B	7F07029	2.7	10	ND	10	06/07/07	06/08/07	
1,1,2,2-Tetrachloroethane	EPA 8260B	7F07029	2.4	10	ND	10	06/07/07	06/08/07	
Tetrachloroethene	EPA 8260B	7F07029	3.2	10	**11**	10	06/07/07	06/08/07	
Tetrahydrofuran (THF)	EPA 8260B	7F07029	35	100	ND	10	06/07/07	06/08/07	
Toluene	EPA 8260B	7F07029	3.6	10	ND	10	06/07/07	06/08/07	
1,2,3-Trichlorobenzene	EPA 8260B	7F07029	3.0	10	ND	10	06/07/07	06/08/07	
1,2,4-Trichlorobenzene	EPA 8260B	7F07029	4.8	10	ND	10	06/07/07	06/08/07	
1,1,2-Trichloroethane	EPA 8260B	7F07029	3.0	10	ND	10	06/07/07	06/08/07	
1,1,1-Trichloroethane	EPA 8260B	7F07029	3.0	10	ND	10	06/07/07	06/08/07	
Trichlorofluoromethane	EPA 8260B	7F07029	3.4	20	ND	10	06/07/07	06/08/07	
1,2,3-Trichloropropane	EPA 8260B	7F07029	4.0	10	ND	10	06/07/07	06/08/07	
1,2,4-Trimethylbenzene	EPA 8260B	7F07029	2.3	10	ND	10	06/07/07	06/08/07	
1,3,5-Trimethylbenzene	EPA 8260B	7F07029	2.6	10	ND	10	06/07/07	06/08/07	
Vinyl acetate	EPA 8260B	7F07029	10	60	ND	10	06/07/07	06/08/07	
Vinyl chloride	EPA 8260B	7F07029	3.0	5.0	**52**	10	06/07/07	06/08/07	
Xylenes, Total	EPA 8260B	7F07029	9.0	10	ND	10	06/07/07	06/08/07	
Surrogate: 4-Bromofluorobenzene (80-120%)					*94 %*				
Surrogate: Dibromofluoromethane (80-120%)					*100 %*				
Surrogate: Toluene-d8 (80-120%)					*98 %*				

TestAmerica - Irvine, CA

Nicholas Marz
Project Manager

10/04/07

LDC #: 17471B1
SDG #: IQF0296
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Tier 2

Date: 9/26/07
Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/5/07
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	%RSD, r^2 ≥0.990
IV.	Continuing calibration/~~ICV~~	SW	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples:

water
1, 2, 3

1	IRZMW004_WG060507_0001	11	7F07007	21		31	
2	IRZMW004_WG060507_0001MS	12	7F07029	22		32	
3	IRZMW004_WG060507_0001MSD	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 17471B)
SDG #: per cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
(Y) N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
(Y) N N/A Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?________
(Y) N N/A Did the initial calibration meet the acceptance criteria?
Y (N) N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	5/31/07	GCMS-60 ICAL	M		0.032	All + 7F07029-Blank	J/UJ/A

INICAL.1SB

LDC #: 17471B1
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

Page: 1 of 1
Reviewer: KT
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?

Y N N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: <25.0%)	Finding RRF (Limit: >0.05)	Associated Samples	Qualifications
	6/7/07	ccv	M		0.033	~~All + Blk~~	J/UJ/A
	6:22PM					7F07029-BLK1,	
						#1	

CONCAL.1SB

BOE-C6-0055979

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg. C-6 Facility

Collection Date: June 7, 2007

LDC Report Date: September 27, 2007

Matrix: Water

Parameters: Volatiles

Validation Level: Tier 3

Laboratory: TestAmerica

Sample Delivery Group (SDG): IQF0673

Sample Identification

IRZMW002B_WG060707_0001
IRZMW002B_WG060707_0001MS
IRZMW002B_WG060707_0001MSD

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination (r^2) were greater than or equal to 0.990 .

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all volatile target compounds and system performance check compounds (SPCCs) were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
6/12/07	2-Butanone	0.040 (≥0.05)	IRZMW002B_WG060707_0001 IRZMW002B_WG060707_0001MS IRZMW002B_WG060707_0001MSD 7F13011-BLK	J (all detects) UJ (all non-detects)	A

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
6/13/07	2-Butanone	0.039 (≥0.05)	IRZMW002B_WG060707_0001 IRZMW002B_WG060707_0001MS IRZMW002B_WG060707_0001MSD 7F13011-BLK	J (all detects) UJ (all non-detects)	A

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg. C-6 Facility
Volatiles - Data Qualification Summary - SDG IQF0673

SDG	Sample	Compound	Flag	A or P	Reason
IQF0673	IRZMW002B_WG060707_0001	2-Butanone	J (all detects) UJ (all non-detects)	A	Initial calibration (%RRF)
IQF0673	IRZMW002B_WG060707_0001	2-Butanone	J (all detects) UJ (all non-detects)	A	Continuing calibration (RRF)

Boeing Realty Corp., Bldg. C-6 Facility
Volatiles - Laboratory Blank Data Qualification Summary - SDG IQF0673

No Sample Data Qualified in this SDG

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727 (Building 2)
Report Number: IQF0673

Sampled: 06/07/07
Received: 06/07/07

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQF0673-01 (IRZMW002B_WG060707_0001 - Water)					**Sampled: 06/07/07**				
Reporting Units: ug/l									
Acetone	EPA 8260B	7F13011	4.5	10	ND	1	06/13/07	06/13/07	
Benzene	EPA 8260B	7F13011	0.28	1.0	ND	1	06/13/07	06/13/07	
Bromobenzene	EPA 8260B	7F13011	0.27	1.0	ND	1	06/13/07	06/13/07	
Bromochloromethane	EPA 8260B	7F13011	0.32	1.0	ND	1	06/13/07	06/13/07	
Bromodichloromethane	EPA 8260B	7F13011	0.30	1.0	ND	1	06/13/07	06/13/07	
Bromoform	EPA 8260B	7F13011	0.40	1.0	ND	1	06/13/07	06/13/07	
Bromomethane	EPA 8260B	7F13011	0.42	1.0	ND	1	06/13/07	06/13/07	
2-Butanone (MEK)	EPA 8260B	7F13011	4.7	5.0	ND UJ	1	06/13/07	06/13/07	
n-Butylbenzene	EPA 8260B	7F13011	0.37	1.0	ND	1	06/13/07	06/13/07	
sec-Butylbenzene	EPA 8260B	7F13011	0.25	1.0	ND	1	06/13/07	06/13/07	
tert-Butylbenzene	EPA 8260B	7F13011	0.22	1.0	ND	1	06/13/07	06/13/07	
Carbon Disulfide	EPA 8260B	7F13011	0.48	1.0	ND	1	06/13/07	06/13/07	
Carbon tetrachloride	EPA 8260B	7F13011	0.28	0.50	ND	1	06/13/07	06/13/07	
Chlorobenzene	EPA 8260B	7F13011	0.36	1.0	ND	1	06/13/07	06/13/07	
Chloroethane	EPA 8260B	7F13011	0.40	2.0	ND	1	06/13/07	06/13/07	
Chloroform	EPA 8260B	7F13011	0.33	1.0	**0.99**	1	06/13/07	06/13/07	J
Chloromethane	EPA 8260B	7F13011	0.40	2.0	ND	1	06/13/07	06/13/07	
2-Chlorotoluene	EPA 8260B	7F13011	0.28	1.0	ND	1	06/13/07	06/13/07	
4-Chlorotoluene	EPA 8260B	7F13011	0.29	1.0	ND	1	06/13/07	06/13/07	
1,2-Dibromo-3-chloropropane	EPA 8260B	7F13011	0.97	2.0	ND	1	06/13/07	06/13/07	
Dibromochloromethane	EPA 8260B	7F13011	0.28	1.0	ND	1	06/13/07	06/13/07	
1,2-Dibromoethane (EDB)	EPA 8260B	7F13011	0.40	1.0	ND	1	06/13/07	06/13/07	
1,4-Dichlorobenzene	EPA 8260B	7F13011	0.37	1.0	ND	1	06/13/07	06/13/07	
1,2-Dichlorobenzene	EPA 8260B	7F13011	0.32	1.0	ND	1	06/13/07	06/13/07	
1,3-Dichlorobenzene	EPA 8260B	7F13011	0.35	1.0	ND	1	06/13/07	06/13/07	
Dichlorodifluoromethane	EPA 8260B	7F13011	0.26	1.0	ND	1	06/13/07	06/13/07	
1,2-Dichloroethane	EPA 8260B	7F13011	0.28	0.50	ND	1	06/13/07	06/13/07	
1,1-Dichloroethane	EPA 8260B	7F13011	0.27	1.0	ND	1	06/13/07	06/13/07	
1,1-Dichloroethene	EPA 8260B	7F13011	0.42	1.0	**5.5**	1	06/13/07	06/13/07	
trans-1,2-Dichloroethene	EPA 8260B	7F13011	0.27	1.0	**3.8**	1	06/13/07	06/13/07	
1,2-Dichloropropane	EPA 8260B	7F13011	0.35	1.0	ND	1	06/13/07	06/13/07	
2,2-Dichloropropane	EPA 8260B	7F13011	0.34	1.0	ND	1	06/13/07	06/13/07	
cis-1,3-Dichloropropene	EPA 8260B	7F13011	0.22	0.50	ND	1	06/13/07	06/13/07	
1,1-Dichloropropene	EPA 8260B	7F13011	0.28	1.0	ND	1	06/13/07	06/13/07	
trans-1,3-Dichloropropene	EPA 8260B	7F13011	0.32	0.50	ND	1	06/13/07	06/13/07	
Ethylbenzene	EPA 8260B	7F13011	0.25	1.0	ND	1	06/13/07	06/13/07	
Hexachlorobutadiene	EPA 8260B	7F13011	0.38	1.0	ND	1	06/13/07	06/13/07	
2-Hexanone	EPA 8260B	7F13011	2.6	6.0	ND	1	06/13/07	06/13/07	
Isopropylbenzene	EPA 8260B	7F13011	0.25	1.0	ND	1	06/13/07	06/13/07	
p-Isopropyltoluene	EPA 8260B	7F13011	0.28	1.0	ND	1	06/13/07	06/13/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7F13011	0.32	1.0	ND	1	06/13/07	06/13/07	

TestAmerica - Irvine, CA

Nicholas Marz
Project Manager

10/07/07

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TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727 (Building 2)
Report Number: IQF0673

Sampled: 06/07/07
Received: 06/07/07

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQF0673-01 (IRZMW002B_WG060707_0001 - Water) - cont.					**Sampled: 06/07/07**				
Reporting Units: ug/l									
Methylene chloride	EPA 8260B	7F13011	0.95	1.0	ND	1	06/13/07	06/13/07	
4-Methyl-2-pentanone (MIBK)	EPA 8260B	7F13011	3.5	5.0	ND	1	06/13/07	06/13/07	
n-Propylbenzene	EPA 8260B	7F13011	0.27	1.0	ND	1	06/13/07	06/13/07	
Styrene	EPA 8260B	7F13011	0.16	1.0	ND	1	06/13/07	06/13/07	
1,1,1,2-Tetrachloroethane	EPA 8260B	7F13011	0.27	1.0	ND	1	06/13/07	06/13/07	
1,1,2,2-Tetrachloroethane	EPA 8260B	7F13011	0.24	1.0	ND	1	06/13/07	06/13/07	
Tetrachloroethene	EPA 8260B	7F13011	0.32	1.0	ND	1	06/13/07	06/13/07	
Toluene	EPA 8260B	7F13011	0.36	1.0	ND	1	06/13/07	06/13/07	
1,2,3-Trichlorobenzene	EPA 8260B	7F13011	0.30	1.0	ND	1	06/13/07	06/13/07	
1,2,4-Trichlorobenzene	EPA 8260B	7F13011	0.48	1.0	ND	1	06/13/07	06/13/07	
1,1,2-Trichloroethane	EPA 8260B	7F13011	0.30	1.0	ND	1	06/13/07	06/13/07	
1,1,1-Trichloroethane	EPA 8260B	7F13011	0.30	1.0	ND	1	06/13/07	06/13/07	
Trichloroethene	EPA 8260B	7F13011	0.26	1.0	**81**	1	06/13/07	06/13/07	
Trichlorofluoromethane	EPA 8260B	7F13011	0.34	2.0	ND	1	06/13/07	06/13/07	
1,2,3-Trichloropropane	EPA 8260B	7F13011	0.40	1.0	ND	1	06/13/07	06/13/07	
1,2,4-Trimethylbenzene	EPA 8260B	7F13011	0.23	1.0	ND	1	06/13/07	06/13/07	
1,3,5-Trimethylbenzene	EPA 8260B	7F13011	0.26	1.0	ND	1	06/13/07	06/13/07	
Vinyl acetate	EPA 8260B	7F13011	1.0	6.0	ND	1	06/13/07	06/13/07	
Vinyl chloride	EPA 8260B	7F13011	0.30	0.50	**54**	1	06/13/07	06/13/07	
Xylenes, Total	EPA 8260B	7F13011	0.90	1.0	ND	1	06/13/07	06/13/07	
Surrogate: 4-Bromofluorobenzene (80-120%)					*91 %*				
Surrogate: Dibromofluoromethane (80-120%)					*94 %*				
Surrogate: Toluene-d8 (80-120%)					*97 %*				

TestAmerica - Irvine, CA

Nicholas Marz
Project Manager

11/06/07

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TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727 (Building 2)
Report Number: IQF0673

Sampled: 06/07/07
Received: 06/07/07

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQF0673-01RE1 (IRZMW002B_WG060707_0001 - Water) - cont.					**Sampled: 06/07/07**				
Reporting Units: ug/l									
cis-1,2-Dichloroethene	EPA 8260B	7F14005	1.6	5.0	**310**	5	06/14/07	06/14/07	
Surrogate: 4-Bromofluorobenzene (80-120%)					*88 %*				
Surrogate: Dibromofluoromethane (80-120%)					*101 %*				
Surrogate: Toluene-d8 (80-120%)					*103 %*				

TestAmerica - Irvine, CA

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Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727 (Building 2)
Report Number: IQF0673

Sampled: 06/07/07
Received: 06/07/07

VOLATILE ORGANICS by GC/MS (EPA 5030B/8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQF0673-01RE2 (IRZMW002B_WG060707_0001 - Water) - cont.					**Sampled: 06/07/07**				**P-HS**
Reporting Units: ug/l									
Iodomethane	EPA 8260B	7F15010	1.0	2.0	ND	1	06/15/07	06/15/07	
Tetrahydrofuran (THF)	EPA 8260B	7F15010	3.5	10	ND	1	06/15/07	06/15/07	
Surrogate: 4-Bromofluorobenzene (80-120%)					*95 %*				
Surrogate: Dibromofluoromethane (80-120%)					*107 %*				
Surrogate: Toluene-d8 (80-120%)					*101 %*				

TestAmerica - Irvine, CA

Nicholas Marz
Project Manager

6/20/07

LDC #: 17471C1
SDG #: IQF0673
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
Tier 3

Date: 9/26/07
Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/7/07
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	SW	% RSD, r^2 ≥ 0.990
IV.	Continuing calibration/~~ICV~~	SW	
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	A	
VIII.	Laboratory control samples	A	LCS
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	
XII.	Compound quantitation/CRQLs	A	
XIII.	Tentatively identified compounds (TICs)	N	NOT Reported
XIV.	System performance	A	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

1 1	IRZMW002B_WG060707_0001	11 1	7F13011-BLK1	21 ✓		31	
2 1	IRZMW002B_WG060707_0001MS	12 2	7F14005-BLK1	22		32	
3 1	IRZMW002B_WG060707_0001MSD	13 3	7F15010-BLK1	23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

DC #: 17471 C1
SDG #: pre cond

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: A
2nd Reviewer: K

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS Instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?	✓			
Did the initial calibration meet the curve fit acceptance criteria of ≥ 0.990?	✓			
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) ≥ 0.05?	NA	✓		
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) ≤ 25% and relative response factors (RRF) ≥ 0.05?		✓		
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix Spike/Matrix Spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?	✓			
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

.DC #: 17471C1
SDG #: see cover

VALIDATION FINDINGS CHECKLIST

Reviewer: B
2nd Reviewer: AV

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within ± 30 seconds of the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within ± 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			✓	
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XVII. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	S. Trichloroethene	KK. Trichlorofluoromethane	CCC. tert-Butylbenzene	UUU. 1,2-Dichlorotetrafluoroethane
B. Bromomethane	T. Dibromochloromethane	LL. Methyl-tert-butyl ether	DDD. 1,2,4-Trimethylbenzene	VVV. 4-Ethyltoluene
C. Vinyl chorlde**	U. 1,1,2-Trichloroethane	MM. 1,2-Dibromo-3-chloropropane	EEE. sec-Butylbenzene	WWW. Ethanol
D. Chloroethane	V. Benzene	NN. Methyl ethyl ketone	FFF. 1,3-Dichlorobenzene	XXX. Di-isopropyl ether
E. Methylene chloride	W. trans-1,3-Dichloropropene	OO. 2,2-Dichloropropane	GGG. p-Isopropyltoluene	YYY. tert-Butanol
F. Acetone	X. Bromoform*	PP. Bromochloromethane	HHH. 1,4-Dichlorobenzene	ZZZ. tert-Butyl alcohol
G. Carbon disulfide	Y. 4-Methyl-2-pentanone	QQ. 1,1-Dichloropropene	III. n-Butylbenzene	AAAA. Ethyl tert-butyl ether
H. 1,1-Dichloroethene**	Z. 2-Hexanone	RR. Dibromomethane	JJJ. 1,2-Dichlorobenzene	BBBB. tert-Amyl methyl ether
I. 1,1-Dichloroethane*	AA. Tetrachloroethene	SS. 1,3-Dichloropropane	KKK. 1,2,4-Trichlorobenzene	CCCC.1-Chlorohexane
J. 1,2-Dichloroethene, total	BB. 1,1,2,2-Tetrachloroethane*	TT. 1,2-Dibromoethane	LLL. Hexachlorobutadiene	DDDD. Isopropyl alcohol
K. Chloroform**	CC. Toluene**	UU. 1,1,1,2-Tetrachloroethane	MMM. Naphthalene	EEEE. Acetonitrile
L. 1,2-Dichloroethane	DD. Chlorobenzene*	VV. Isopropylbenzene	NNN. 1,2,3-Trichlorobenzene	FFFF. Acrolein
M. 2-Butanone	EE. Ethylbenzene**	WW. Bromobenzene	OOO. 1,3,5-Trichlorobenzene	GGGG. Acrylonitrile
N. 1,1,1-Trichloroethane	FF. Styrene	XX. 1,2,3-Trichloropropane	PPP. trans-1,2-Dichloroethene	HHHH. 1,4-Dioxane
O. Carbon tetrachloride	GG. Xylenes, total	YY. n-Propylbenzene	QQQ. cis-1,2-Dichloroethene	IIII. Isobutyl alcohol
P. Bromodichloromethane	HH. Vinyl acetate	ZZ. 2-Chlorotoluene	RRR. m,p-Xylenes	JJJJ. Methacrylonitrile
Q. 1,2-Dichloropropane**	II. 2-Chloroethylvinyl ether	AAA. 1,3,5-Trimethylbenzene	SSS. o-Xylene	KKKK. Propionitrile
R. cis-1,3-Dichloropropene	JJ. Dichlorodifluoromethane	BBB. 4-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	LLLL.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 17471C1
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration

Page: 1 of 1
Reviewer: B
2nd Reviewer: K

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Did the laboratory perform a 5 point calibration prior to sample analysis?
(Y) N N/A Were percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCC's and SPCC's?
Y N (N/A) Was a curve fit used for evaluation? If yes, what was the acceptance criteria used for evaluation?________
(Y) N N/A Did the initial calibration meet the acceptance criteria?
Y (N) N/A Were all %RSDs and RRFs within the validation criteria of ≤30 %RSD and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %RSD (Limit: ≤30.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	6/12/07	GCMS-31 ICAL	M		0.040	All +	J/UJ/A
						7F13011-BLK	

INICAL.1SB

LDC #: 17471C1
SDG #: see cover

Reviewer: [illegible]
2nd Reviewer: [illegible]

VALIDATION FINDINGS WORKSHEET
Continuing Calibration

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?

Y N N/A Were percent differences (%D) and relative response factors (RRF) within method criteria for all CCC's and SPCC's ?

Y (N) N/A Were all %D and RRFs within the validation criteria of ≤25 %D and ≥0.05 RRF ?

#	Date	Standard ID	Compound	Finding %D (Limit: ≤25.0%)	Finding RRF (Limit: ≥0.05)	Associated Samples	Qualifications
	6/13/07	# CCV	M		0.039	All+	J/UJ/A
	6:19					7F13011-Blank	

CONCAL.1SB

LDC #: 174721C1
SDG #: pw cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$
average RRF = sum of the RRFs/number of standards
$\%RSD = 100 * (S/X)$

A_x = Area of compound,
C_x = Concentration of compound,
S = Standard deviation of the RRFs
X = Mean of the RRFs

A_{is} = Area of associated internal standard
C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference Internal Standard)	Reported RRF	Recalculated RRF	Reported Average RRF (initial)	Recalculated Average RRF (initial)	Reported %RSD	Recalculated %RSD
1	GCMS-31	2/27/07	Tetrahydrofuran (1st internal standard)	0.108	0.108	0.115	0.115	19.09	19.09
			(2nd internal standard)						
			(3rd internal standard)						
2	GCMS-31	6/12/07	vinyl chloride (1st internal standard)	0.956	0.956	0.901	0.901	12.58	12.58
			Toluene (2nd internal standard)	1.362	1.362	1.274	1.274	6.73	6.73
			ethyl Benzene (3rd internal standard)	1.681	1.681	1.547	1.547	7.89	7.89
3			1,1,2,2, Tetrachloroethane (1st internal standard)	0.674	0.674	0.591	0.591	12.84	12.84
			(2nd internal standard)						
			(3rd internal standard)						
4	GCMS 33	6/13/07	Bis-1,2 DCE (1st internal standard)	0.575	0.575	0.595	0.595	7.06	7.06
			(2nd internal standard)						
	GCMS-31	5/31/07	Tetrahydrofuran (3rd internal standard)	0.076	0.076	0.075	0.075	9.16	9.16

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 17471C1
SDG #: per cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
$RRF = (A_x)(C_{is})/(A_{is})(C_x)$

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
A_x = Area of compound, A_{is} = Area of associated internal standard
C_x = Concentration of compound, C_{is} = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (Reference internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CCV	6/13/07	vinyl chloride (1st internal standard)	0.901	0.842	0.842	6.5	6.5
	6:19		Toluene (2nd internal standard)	1.274	1.369	1.369	7.5	7.5
			Ethyl benzene (3rd internal standard)	1.547	1.691	1.691	9.3	9.3
2			1,1,2,2 Tetra chloroethane (1st internal standard)	0.591	0.619	0.619	4.7	4.7
			(2nd internal standard)					
			(3rd internal standard)					
3	CCV	6/14/07	cis-1,2 DCE (1st internal standard)	0.595	0.616	0.616	3.5	3.5
	8:15		(2nd internal standard)					
			(3rd internal standard)					
4	CCV		(1st internal standard)					
	7:22	6/15/07	Tetrahydrofuran (2nd internal standard)	0.075	0.084	0.084	12	12
			(3rd internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 17471C1
SDG #: see cover

VALIDATION FINDINGS WORKSHEET

Surrogate Results Verification

Page: 1 of 1
Reviewer:
2nd reviewer:

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: #1

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8	25.0	24.26	97	97	0
Bromofluorobenzene	↓	22.76	91	91	↓
1,2-Dichloroethane-d4					
Dibromofluoromethane		23.54	94	94	↓

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Toluene-d8					
Bromofluorobenzene					
1,2-Dichloroethane-d4					
Dibromofluoromethane					

LDC #: 17471C1
SDG #: pre cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentration

RPD = | MSC - MSDC | * 2/(MSC + MSDC)

MSC = Matrix spike percent recovery; MSDC = Matrix spike duplicate percent recovery

MS/MSD sample: 2 & 3

Compound	Spike Added (ug/L)		Sample Concentration (ug/L)	Spiked Sample Concentration (ug/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	-----	MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	25.0	25.0	5.5 J	30.7	30.4	101	101	100	100	1	1
Trichloroethene	↓	↓	80.6	109	106	115	114	102	102	3	3
Benzene				25.6	26.6	103	102	106	106	4	4
Toluene			86 ND	~~109~~ 25.5	26.4	~~115~~ 102	102	106	106	4	3.5
Chlorobenzene				23.8	24.5	95	95	98	98	3	3

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 17471C1
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: JP
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = | LCS - LCSD | * 2/(LCS + LCSD) LCS = Laboraotry control sample percent recovery LCSD = Laboratory control sample duplicate percent recovery

LCS ID: 7F13011-BS1

Compound	Spike Added (ug/L)		Spiked Sample Concentration (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc	Reported	Recalc	Reported	Recalculated
1,1-Dichloroethene	25.0	NA	24.2	NA	97	97				
Trichloroethene			23.0		92	92				
Benzene			24.8		99	99				
Toluene			24.5		98	98				
Chlorobenzene			23.0		92	92	NA			

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 17471C1
SDG #: pre conv

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: 5
2nd reviewer: K

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

Concentration = $\frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$

A_x = Area of the characteristic ion (EICP) for the compound to be measured

A_{is} = Area of the characteristic ion (EICP) for the specific internal standard

I_s = Amount of internal standard added in nanograms (ng)

RRF = Relative response factor of the calibration standard.

V_o = Volume or weight of sample pruged in milliliters (ml) or grams (g).

Df = Dilution factor.

%S = Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. #1 , S :

Conc. = $\frac{(71653)(25)(\quad)(\quad)(\quad)}{(75443)(0.386)(\quad)(\quad)(\quad)}$

= 80.6 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

Boeing Realty Corp., Bldg C-6 Facility
Data Validation Reports
LDC# 17471

Wet Chemistry

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: June 4, 2007

LDC Report Date: September 27, 2007

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Tier 1

Laboratory: TestAmerica

Sample Delivery Group (SDG): IQF0211

Sample Identification

IRZMW001A_WG060407_0001

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 300.0 for Sulfate, EPA Method 376.2 for Sulfide, and EPA Method 415.1 for Total Organic Carbon.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Tier 1.

b. Calibration Verification

Calibration verification data were not reviewed for Tier 1.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the preparation blanks.

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Sample Result Verification

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Wet Chemistry - Data Qualification Summary - SDG IQF0211

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IQF0211

No Sample Data Qualified in this SDG

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727 (Building 2)
Report Number: IQF0211

Sampled: 06/04/07
Received: 06/04/07

INORGANICS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQF0211-01 (IRZMW001A_WG060407_0001 - Water)					**Sampled: 06/04/07**				
Reporting Units: mg/l									
Sulfate	EPA 300.0	7F04058	4.0	10	**53**	20	06/04/07	06/04/07	
Sulfide	EPA 376.2	7F05131	0.020	0.10	**0.086**	1	06/05/07	06/05/07	J
Total Organic Carbon	EPA 415.1	7F05143	0.50	1.0	**1.6**	1	06/05/07	06/05/07	
Sample ID: IQF0211-02 (IRZMW003A_WG060407_0001 - Water)					**Sampled: 06/04/07**				
Reporting Units: mg/l									
Sulfate	EPA 300.0	7F04058	4.0	10	**77**	20	06/04/07	06/04/07	
Sulfide	EPA 376.2	7F05131	0.020	0.10	ND	1	06/05/07	06/05/07	
Total Organic Carbon	EPA 415.1	7F05143	0.50	1.0	**1.4**	1	06/05/07	06/05/07	
Sample ID: IQF0211-03 (IRZMW002A_WG060407_0001 - Water)					**Sampled: 06/04/07**				
Reporting Units: mg/l									
Sulfate	EPA 300.0	7F04058	4.0	10	**63**	20	06/04/07	06/04/07	
Sulfide	EPA 376.2	7F05131	0.020	0.10	**0.10**	1	06/05/07	06/05/07	J
Total Organic Carbon	EPA 415.1	7F05143	0.50	1.0	**2.2**	1	06/05/07	06/05/07	
Sample ID: IQF0211-04 (IRZCMW003_WG060407_0001 - Water)					**Sampled: 06/04/07**				
Reporting Units: mg/l									
Sulfate	EPA 300.0	7F04058	4.0	10	**120**	20	06/04/07	06/04/07	
Sulfide	EPA 376.2	7F05131	0.020	0.10	**0.060**	1	06/05/07	06/05/07	J
Total Organic Carbon	EPA 415.1	7F05143	0.50	1.0	ND	1	06/05/07	06/05/07	

TestAmerica - Irvine, CA

Nicholas Marz
Project Manager

6/10/07

LDC #: 17471A6
SDG #: IQF0211
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
EPA Region 1 - Tier 1

Date: 9/24/07
Page: 1 of 1
Reviewer: MH
2nd Reviewer: [illegible]

METHOD: Sulfate, (EPA Method 300.0), Sulfide (EPA Method 376.2), TOC (EPA Method 415.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/4/07
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	MS/MSD low client
IVb.	Laboratory control samples	A	LCS
V.	Sample result verification	N	
VI.	Overall assessment of data	A	
VII.	Field duplicates	N	
VIII.	Field blanks	N	

Note: A = Acceptable
N = Not provided/applicable
SW = See worksheet
ND = No compounds detected
R = Rinsate
FB = Field blank
D = Duplicate
TB = Trip blank
EB = Equipment blank

Validated Samples: All

1	IRZMW001A_WG060407_0001	11		21		31	
2	MB	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 17471A6
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: MY
2nd reviewer:

All circled methods are applicable to each sample.

Sample ID	Parameter
1	pH TDS Cl F NO_3 NO_2 [✓ SO_4] PO_4 ALK CN^- NH_3 TKN [✓ TOC] CR^{6+} ⑤ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}

Comments:

METHODS.6

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: June 15, 2007

LDC Report Date: September 27, 2007

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Tier 2

Laboratory: TestAmerica

Sample Delivery Group (SDG): IQF0296

Sample Identification

IRZMW004_WG060507_0001

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 300.0 for Sulfate, EPA Method 376.2 for Sulfide, and EPA Method 415.1 for Total Organic Carbon.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
IRZCMW001_WG060507_0001 (All samples in SDG IQF0296)	Sulfide	57 (70-130)	52 (70-130)	-	J (all detects) UJ (all non-detects)	A

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Sample Result Verification

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Wet Chemistry - Data Qualification Summary - SDG IQF0296

SDG	Sample	Analyte	Flag	A or P	Reason
IQF0296	IRZMW004_WG060507_0001	Sulfide	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)

Boeing Realty Corp., Bldg C-6 Facility
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IQF0296

No Sample Data Qualified in this SDG

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA .92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727 (Building 2)
Report Number: IQF0296

Sampled: 06/05/07
Received: 06/05/07

INORGANICS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQF0296-01 (IRZMW004_WG060507_0001 - Water)					**Sampled: 06/05/07**				
Reporting Units: mg/l									
Sulfate	EPA 300.0	7F06041	2.0	5.0	**35**	10	06/06/07	06/06/07	
Sulfide	EPA 376.2	7F05132	0.020	0.10	**0.061** J	1	06/05/07	06/05/07	J
Total Organic Carbon	EPA 415.1	7F06140	0.50	1.0	ND	1	06/06/07	06/06/07	
~~**Sample ID: IQF0296-02 (IWC002_WG060507_0001 - Water)**~~					**Sampled: 06/05/07**				
Reporting Units: mg/l									
Total Organic Carbon	EPA 415.1	7F06140	0.50	1.0	ND	1	06/06/07	06/06/07	
Sample ID: IQF0296-03 (IWC001_WG060507_0001 - Water)					**Sampled: 06/05/07**				
Reporting Units: mg/l									
Total Organic Carbon	EPA 415.1	7F06140	0.50	1.0	ND	1	06/06/07	06/06/07	
Sample ID: IQF0296-04 (IRZCMW001_WG060507_0001 - Water)					**Sampled: 06/05/07**				
Reporting Units: mg/l									
Sulfate	EPA 300.0	7F06041	2.0	5.0	**33**	10	06/06/07	06/06/07	
Sulfide	EPA 376.2	7F05132	0.020	0.10	**0.092**	1	06/05/07	06/05/07	M2, J
Total Organic Carbon	EPA 415.1	7F06140	0.50	1.0	ND	1	06/06/07	06/06/07	
Sample ID: IQF0296-08 (EWC002_WG060507_0001 - Water)					**Sampled: 06/05/07**				
Reporting Units: mg/l									
~~Total Organic Carbon~~	~~EPA 415.1~~	~~7F06140~~	~~0.50~~	~~1.0~~	~~ND~~	~~1~~	~~06/06/07~~	~~06/06/07~~	

TestAmerica - Irvine, CA

Nicholas Marz
Project Manager

D 100407

LDC #: 17471B6
SDG #: IQF0296
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
EPA Region 1 - Tier 2

Date: 9/24/07
Page: 1 of 1
Reviewer: W
2nd Reviewer: L

METHOD: Sulfate, (EPA Method 300.0), Sulfide (EPA Method 376.2), TOC (EPA Method 415.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/5/07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	SW	
IVb.	Laboratory control samples	A	LCS
V.	Sample result verification	N	
VI.	Overall assessment of data	A	
VII.	Field duplicates	N	
VIII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples:

1	IRZMW004_WG060507_0001	11		21		31	
2	MB	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 1747B6
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: ww
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Parameter
1	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} (5)
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}

Comments:

METHODS.6

LDC #: 1747B6
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Reviewer: MM
2nd Reviewer: [illegible]

METHOD: Inorganics, EPA Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a matrix spike analyzed for each matrix in this SDG?

Y (N) N/A Were matrix spike percent recoveries (%R) within the control limits of ~~75-125~~? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken. 70-130

(Y) N N/A Were all duplicate sample relative percent differences (RPD) ≤ 20% for water samples and ≤35% for soil samples?

LEVEL IV ONLY:

Y N (N/A) Were recalculated results acceptable? See Level IV Recalculation Worksheet for recalculations.

#	MS/MSD ID	Matrix	Analyte	MS %Recovery	MSD %Recovery	RPD (Limits)	Associated Samples	Qualifications
1	IRZCMW001_W060607_0001	S	57	52		All	J/UJ/A	

Comments:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: June 7, 2007

LDC Report Date: September 27, 2007

Matrix: Water

Parameters: Wet Chemistry

Validation Level: Tier 3

Laboratory: TestAmerica

Sample Delivery Group (SDG): IQF0673

Sample Identification

IRZMW002B_WG060707_0001

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 300.0 for Sulfate, EPA Method 376.2 for Sulfide, and EPA Method 415.1 for Total Organic Carbon.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VII. Sample Result Verification

All sample result verifications were acceptable.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Wet Chemistry - Data Qualification Summary - SDG IQF0673

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG IQF0673

No Sample Data Qualified in this SDG

TestAmerica
ANALYTICAL TESTING CORPORATION
17461 Derian Avenue. Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

TAIT Environmental/Boeing
701 N. Parkcenter Drive
Santa Ana, CA 92705
Attention: Clara Boeru

Project ID: Boeing C-6 Torrance
EM2727 (Building 2)
Report Number: IQF0673

Sampled: 06/07/07
Received: 06/07/07

INORGANICS

Analyte	Method	Batch	MDL	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQF0673-01 (IRZMW002B_WG060707_0001 - Water)					**Sampled: 06/07/07**				
Reporting Units: mg/l									
Sulfate	EPA 300.0	7F08059	2.0	5.0	**75**	10	06/08/07	06/08/07	
Sulfide	EPA 376.2	7F13102	0.020	0.10	ND	1	06/13/07	06/14/07	
Total Organic Carbon	EPA 415.1	7F11122	0.50	1.0	**3.8**	1	06/11/07	06/11/07	
Sample ID: IQF0673-02 (IRZB0095_WG060707_0001 - Water)					**Sampled: 06/07/07**				
Reporting Units: mg/l									
Sulfate	EPA 300.0	7F08059	2.0	5.0	**13**	10	06/08/07	06/08/07	
Sulfide	EPA 376.2	7F13102	0.20	1.0	**2.7**	10	06/13/07	06/14/07	
Total Organic Carbon	EPA 415.1	7F11122	5.0	10	**14**	10	06/11/07	06/11/07	
Sample ID: IQF0673-03 (IRZB0081_WG060707_0001 - Water)					**Sampled: 06/07/07**				
Reporting Units: mg/l									
Sulfate	EPA 300.0	7F08059	2.0	5.0	**51**	10	06/08/07	06/08/07	
Sulfide	EPA 376.2	7F13102	0.20	1.0	**2.5**	10	06/13/07	06/14/07	
Total Organic Carbon	EPA 415.1	7F11122	2.5	5.0	**19**	5	06/11/07	06/11/07	
Sample ID: IQF0673-04 (IRZCMW002_WG060707_0001 - Water)					**Sampled: 06/07/07**				
Reporting Units: mg/l									
Sulfate	EPA 300.0	7F08059	0.20	0.50	**1.8**	1	06/08/07	06/08/07	
Sulfide	EPA 376.2	7F13102	0.020	0.10	**0.17**	1	06/13/07	06/14/07	
Total Organic Carbon	EPA 415.1	7F11122	0.50	1.0	**25**	1	06/11/07	06/11/07	
Sample ID: IQF0673-07 (CMW026_WG060707_0001 - Water)					**Sampled: 06/07/07**				
Reporting Units: mg/l									
Sulfate	EPA 300.0	7F08059	2.0	5.0	**29**	10	06/08/07	06/08/07	
Sulfide	EPA 376.2	7F13102	0.020	0.10	**0.087**	1	06/13/07	06/14/07	J
Total Organic Carbon	EPA 415.1	7F11122	0.50	1.0	**9.8**	1	06/11/07	06/11/07	

TestAmerica - Irvine, CA

Nicholas Marz
Project Manager

6/10/07

LDC #: 17471C6
SDG #: IQF0673
Laboratory: Test America

VALIDATION COMPLETENESS WORKSHEET
EPA Region 1 - Tier 3

Date: 9/24/07
Page: 1 of 1
Reviewer: MM
2nd Reviewer: N

METHOD: Sulfate, (EPA Method 300.0), Sulfide (EPA Method 376.2), TOC (EPA Method 415.1)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/7/07
IIa.	Initial calibration	A	
IIb.	Calibration verification	A	
III.	Blanks	A	
IVa.	Matrix Spike/(Matrix Spike) Duplicates	A	MS/MSD, same client
IVb.	Laboratory control samples	A	LCS
V.	Sample result verification	A	
VI.	Overall assessment of data	A	
VII.	Field duplicates	N	
VIII.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: All

1	IRZMW002B_WG060707_0001	11		21		31	
2	MB	12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 1947/C6
SDG #: see cover

VALIDATION FINDINGS CHECKLIST

Reviewer: MM
2nd Reviewer: ✓

Method: Inorganics (EPA Method See cover

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Calibration				
Were all instruments calibrated daily, each set-up time?	✓			
Were the proper number of standards used?	✓			
Were all initial calibration correlation coefficients ≥ 0.995?	✓			
Were all initial and continuing calibration verification %Rs within the 90-110% QC limits?	✓			
Were titrant checks performed as required? (Level IV only)			✓	
Were balance checks performed as required? (Level IV only)			✓	
III. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
IV. Matrix spike/Matrix spike duplicates and Duplicates				
Were a matrix spike (MS) and duplicate (DUP) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD or MS/DUP. Soil / Water.	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the 75-125 QC limits? If the sample concentration exceeded the spike concentration by a factor of 4 or more, no action was taken.	✓			
Were the MS/MSD or duplicate relative percent differences (RPD) ≤ 20% for waters and ≤ 35% for soil samples? A control limit of ≤ CRDL(≤ 2X CRDL for soil) was used for samples that were ≤ 5X the CRDL, including when only one of the duplicate sample values were ≤ 5X the CRDL.	✓			
V. Laboratory control samples				
Was an LCS anaylzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the 80-120% (85-115% for Method 300.0) QC limits?	✓			
VI. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	

LDC #: 1747/C6
SDG #: See cover

VALIDATION FINDINGS CHECKLIST

Reviewer: MM
2nd Reviewer: A

Validation Area	Yes	No	NA	Findings/Comments
VII. Sample Result Verification				
Were RLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
Were detection limits < RL?	✓			
VIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
IX. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target analytes were detected in the field duplicates.			✓	
X. Field blanks				
Field blanks were identified in this SDG.		✓		
Target analytes were detected in the field blanks.			✓	

LDC #: 1747C6
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Sample Specific Analysis Reference

Page: 1 of 1
Reviewer: [illegible]
2nd reviewer: [illegible]

All circled methods are applicable to each sample.

Sample ID	Parameter
1	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} 5 ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+} ____ ____ ____ ____
	pH TDS Cl F NO_3 NO_2 SO_4 PO_4 ALK CN^- NH_3 TKN TOC CR^{6+}

Comments:

METHODS.6

LDC #: 17477C6
SDG #: See cover

Validatin Findings Worksheet
Initial and Continuing Calibration Calculation Verification

Reviewer: MS
2nd Reviewer: AC

Method: Inorganics, Method See cover

The correlation coefficient (r) for the calibration of SO4 was recalculated.Calibration date: 5/31/07

An initial or continuing calibration verification percent recovery (%R) was recalculated for each type of analysis using the following formula:

$$\%R = \frac{\text{Found} \times 100}{\text{True}}$$

Where, Found = concentration of each analyte measured in the analysis of the ICV or CCV solution
True = concentration of each analyte in the ICV or CCV source

Type of analysis	Analyte	Standard	conc. mg/L	Area	Recalculated r or r^2	Reported r or r^2	Acceptable (Y/N)
Initial calibration	SO4	s1	0	237.5	*0.999994*	0.999994	Y
Calibration verification		s2	0.4	37344.68			
		s3	1	87640.1			
		s4	10	896947.45			
		s5	20	1842696.5			
		s6	40	3852412.54			
		s7	60	6090482.7			
CCV Calibration verification	SO4	20	19.56		97.8	NR	Y
CCV Calibration verification	S	0.300	0.308		102.7	↓	↓
CCV Calibration verification	Tot	10	10.7		107	↓	↓

Comments: Refer to Calibration Verification findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 19491C6
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Level IV Recalculation Worksheet

Page: 1 of 1
Reviewer: MM
2nd Reviewer: [illegible]

METHOD: Inorganics, Method See cover

Percent recoveries (%R) for a laboratory control sample and a matrix spike sample were recalculated using the following formula:

$\%R = \frac{Found}{True} \times 100$ Where, Found = concentration of each analyte measured in the analysis of the sample. For the matrix spike calculation, Found = SSR (spiked sample result) - SR (sample result).
True = concentration of each analyte in the source.

A sample and duplicate relative percent difference (RPD) was recalculated using the following formula:

$RPD = \frac{|S-D|}{(S+D)/2} \times 100$ Where, S = Original sample concentration
D = Duplicate sample concentration

Sample ID	Type of Analysis	Element	Found / S (units)	True / D (units)	Recalculated %R / RPD	Reported %R / RPD	Acceptable (Y/N)
LCS	Laboratory control sample	SO4	9.648	10	96	96	Y
IAF0402	Matrix spike sample	Tic	(SSR-SR) 4.96	5	95	95	"
IAF1075	Duplicate sample	S	0.461	0.441	4	4	"

Comments: Refer to appropriate worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

TOTCLC.6

LDC #: 1947|c6
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Page: 1 of 1
Reviewer: MH
2nd reviewer:

METHOD: Inorganics, Method See cover

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Have results been reported and calculated correctly?
Y N N/A Are results within the calibrated range of the instruments?
(Y) N N/A Are all detection limits below the CRQL?

Compound (analyte) results for 1 reported with a positive detect were recalculated and verified using the following equation:

Concentration = Recalculation:

$$TOC = \frac{Area + 166.08}{604.24} \qquad TOC = \frac{2147 + 166.08}{604.24} = 3.83 \text{ mg/L}$$

#	Sample ID	Analyte	Reported Concentration (mg/L)	Calculated Concentration (mg/L)	Acceptable (Y/N)
1	1	SO4	95	95	Y
		TOC	3.8	3.8	Y

Note:

Boeing Realty Corp., Bldg C-6 Facility
Data Validation Reports
LDC# 17471

Dissolved Gasses

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: June 4, 2007

LDC Report Date: October 5, 2007

Matrix: Water

Parameters: Dissolved Gases

Validation Level: Tier 1

Laboratory: Test America/Air Technology Laboratories, Inc.

Sample Delivery Group (SDG): IQF0211/A7060503

Sample Identification

IRZMW001A_WG060407_0001

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Dissolved Gases.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration data were not reviewed for Tier 1.

b. Calibration Verification

Calibration verification data were not reviewed for Tier 1.

III. Blanks

Method blanks were performed at the required frequency. No dissolved gas contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were analyzed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Dissolved Gases - Data Qualification Summary - SDG IQF0211/A7060503

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility
Dissolved Gases - Laboratory Blank Data Qualification Summary - SDG IQF0211/A7060503

No Sample Data Qualified in this SDG

Client: TestAmerica
Attn: Nicholas Marz

Client's Project: IQF0211
Date Received: 6/5/2007
Matrix: Water
Units: ug/L

Dissolved Gases by EPA Procedure RSKSOP-175

IRZMW001A_WG060407_001

Lab No.:	A7060503-01	A7060503-02	A7060503-03	A7060503-04	
Client Sample I.D.:	IQF0211-01	IQF0211-02	IQF0211-03	IQF0211-04	
Date Sampled:	6/4/2007	6/4/2007	6/4/2007	6/4/2007	
Date Analyzed:	6/13/2007	6/13/2007	6/13/2007	6/13/2007	
Analyst Initials:	DT	DT	DT	DT	
Data File:	13jun005	13jun006	13jun007	13jun008	
QC Batch:	070613GC8A1	070613GC8A1	070613GC8A1	070613GC8A1	
Dilution Factor:	1.0	1.0	1.0	1.0	

ANALYTE	PQL	RL	Results	RL	Results	RL	Results	RL	Results		
Methane	1.0	1.0	10,000	1.0	7,200	1.0	5,000	1.0	3,700		
Ethane	2.0	2.0	ND	2.0	6.2	2.0	ND	2.0	ND		
Ethylene	3.0	3.0	ND	3.0	7.8	3.0	3.1	3.0	4.3		

PQL = Practical Quantitation Limit
ND = Not Detected (Below RL)
RL = PQL X Dilution Factor

Reviewed/Approved By: _____ Date: 6-14-07
Mark J. Johnson
Operations Manager

The cover letter is an integral part of this analytical report.

K 100407

LDC #: 17471A51 **VALIDATION COMPLETENESS WORKSHEET** Date: 9/26/07

SDG #: IQF0211/A7060503 Tier 1 Page: 1 of 1

Laboratory: Test America/Air Technology Laboratory, Inc. Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC Dissolved Gases (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/4/07
IIa.	Initial calibration	N	
IIb.	Calibration verification	N	
III.	Blanks	A	
IVa.	Surrogate recovery	N	not required
IVb.	Matrix spike/Matrix spike duplicates	N	client specified
IVc.	Laboratory control samples	A	LCS ID
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	IRZMW001A_WG060407_0001	11	MB - 6/13/07	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: June 5, 2007

LDC Report Date: October 5, 2007

Matrix: Water

Parameters: Dissolved Gases

Validation Level: Tier 2

Laboratory: Test America/Air Technology Laboratories, Inc.

Sample Delivery Group (SDG): IQF0296/A7060601

Sample Identification

IRZMW004_WG060507_0001

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Dissolved Gases.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990 .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 25.0% QC limits.

III. Blanks

Method blanks were performed at the required frequency. No dissolved gas contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were analyzed at the required frequency. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Dissolved Gases - Data Qualification Summary - SDG IQF0296/A7060601

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility
Dissolved Gases - Laboratory Blank Data Qualification Summary - SDG IQF0296/A7060601

No Sample Data Qualified in this SDG

Client: TestAmerica
Attn: Nicholas Marz

Client's Project: IQF0296
Date Received: 6/6/2007
Matrix: Water
Units: ug/L

Dissolved Gases by EPA Procedure RSKSOP-175

IRZMW004-WG060507-000

Lab No.:	A7060601-01	~~A7060601-02~~
Client Sample I.D.:	IQF0296-01	IQF0296-04
Date Sampled:	6/5/2007	6/5/2007
Date Analyzed:	6/13/2007	6/13/2007
Analyst Initials:	DT	DT
Data File:	13jun015	13jun016
QC Batch:	070613GC8A1	070613GC8A1
Dilution Factor:	1.0	1.0

ANALYTE	PQL	RL	Results	RL	Results
Methane	1.0	1.0	1,500	1.0	33
Ethane	2.0	2.0	ND	2.0	ND
Ethylene	3.0	3.0	ND	~~3.0~~	~~ND~~

PQL = Practical Quantitation Limit
ND = Not Detected (Below RL)
RL = PQL X Dilution Factor

Reviewed/Approved By: _____ Date: 6-14-07
Mark J. Johnson
Operations Manager

The cover letter is an integral part of this analytical report.

LDC #: 17471B51 **VALIDATION COMPLETENESS WORKSHEET** Date: 9/26/07
SDG #: IQF0296/A7060601 Tier 2 Page: 1 of 1
Laboratory: Test America/Air Technology Laboratory, Inc. Reviewer: EJ
2nd Reviewer: M

METHOD: GC Dissolved Gases (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/5/07
IIa.	Initial calibration	A	1^2 ≥ 0.990
IIb.	Calibration verification	A	%D ≤ 25
III.	Blanks	A	
IVa.	Surrogate recovery	N	Not Required
IVb.	Matrix spike/Matrix spike duplicates	N	client specified
IVc.	Laboratory control samples	A	LCS 10
V.	Target compound identification	N	
VI.	Compound Quantitation and CRQLs	N	
VII.	System Performance	N	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	IRZMW004_WG060507_0001	11	MB - 6/13/07	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes:

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: Boeing Realty Corp., Bldg C-6 Facility

Collection Date: June 7, 2007

LDC Report Date: October 5, 2007

Matrix: Water

Parameters: Dissolved Gases

Validation Level: Tier 3

Laboratory: Test America/Air Technology Laboratories, Inc.

Sample Delivery Group (SDG): IQF0673/A7060801

Sample Identification

IRZMW002B_WG060707_0001

Introduction

This data review covers one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per Method RSK-175 for Dissolved Gases.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990 .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 25.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No dissolved gas contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were not required by the method.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

All target compound identifications were within validation criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

VII. System Performance

The system performance was acceptable.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

No field blanks were identified in this SDG.

Boeing Realty Corp., Bldg C-6 Facility
Dissolved Gases - Data Qualification Summary - SDG IQF0673/A7060801

No Sample Data Qualified in this SDG

Boeing Realty Corp., Bldg C-6 Facility
Dissolved Gases - Laboratory Blank Data Qualification Summary - SDG IQF0673/A7060801

No Sample Data Qualified in this SDG

Client: TestAmerica
Attn: Nicholas Marz

Client's Project: IQF0673
Date Received: 6/8/2007
Matrix: Water
Units: ug/L

Dissolved Gases by EPA Procedure RSKSOP-175

IRZMW0022-WG060707_0001

Lab No.:	A7060801-01		A7060801-02		A7060801-03		A7060801-04		A7060801-05	
Client Sample I.D.:	IQF0673-01		IQF0673-02		IQF0673-03		IQF0673-04		IQF0673-07	
Date Sampled:	6/7/2007		6/7/2007		6/7/2007		6/7/2007		6/7/2007	
Date Analyzed:	6/18/2007		6/18/2007		6/18/2007		6/18/2007		6/18/2007	
Analyst Initials:	DT		DT		DT		DT		DT	
Data File:	18jun011		18jun012		18jun013		18jun014		18jun015	
QC Batch:	070618GC8A1		070618GC8A1		070618GC8A1		070618GC8A1		070618GC8A1	
Dilution Factor:	1.0		1.0		1.0		1.0		1.0	
ANALYTE	PQL	RL	Results	RL	Results	RL	Results	RL	Results	RL	Results
Methane	1.0	1.0	3,100	1.0	6,700	1.0	6,600	1.0	17,000	1.0	11,000
Ethane	2.0	2.0	ND	2.0	ND	2.0	ND	2.0	ND	2.0	ND
Ethylene	3.0	3.0	ND	3.0	27	3.0	10	3.0	27	3.0	ND
Nitrogen	1,500	1,500	83,000	1,500	74,000	1,500	81,000	1,500	55,000	1,500	80,000

PQL = Practical Quantitation Limit
ND = Not Detected (Below RL)
RL = PQL X Dilution Factor

Reviewed/Approved By: _____ **Date:** 6/20/07
Mark J. Johnson
Operations Manager

The cover letter is an integral part of this analytical report.

6/19/07

LDC #: 17471C51 **VALIDATION COMPLETENESS WORKSHEET** Date: 9/26/07
SDG #: IQF0673/A7060801 Tier 3 Page: 1 of 1
Laboratory: Test America/Air Technology Laboratory, Inc. Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC Dissolved Gases (Method RSK-175)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 6/7/07
IIa.	Initial calibration	A	r^2 ≥ 0.990
IIb.	Calibration verification	A	%D ≤ 25
III.	Blanks	A	
IVa.	Surrogate recovery	N	not Required
IVb.	Matrix spike/Matrix spike duplicates	N	client specified
IVc.	Laboratory control samples	A	LCS ID
V.	Target compound identification	A	
VI.	Compound Quantitation and CRQLs	A	
VII.	System Performance	A	
VIII.	Overall assessment of data	A	
IX.	Field duplicates	N	
X.	Field blanks	N	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: water

1	IRZMW002B_WG060707_0001	11	MB- 6/18/07	21		31	
2		12		22		32	
3		13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Notes: _____

LDC #: 17475(1)
SDG #: see cover

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: ✓ GC ____ HPLC

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Was a linear fit used for evaluation? If yes, were all percent relative standard deviations (%RSD) ≤ 20%?		✓		
Was a curve fit used for evaluation? If Yes, what was the acceptance criteria used?	✓			
Did the initial calibration meet the curve fit acceptance criteria?	✓			
Were the RT windows properly established?	✓			
IV. Continuing calibration				
What type of continuing calibration calculation was performed? ____%D or ____%R	✓			
Was a continuing calibration analyzed daily?	✓			
Were all percent differences (%D) ≤ ~~15%~~ 25.0 or percent recoveries ~~85-115%~~ 75-125%?	✓			
Were all the retention times within the acceptance windows?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within the QC limits?			✓	
If the percent recovery (%R) of one or more surrogates was outside QC limits, was a reanalysis performed to confirm %R?			✓	
If any %R was less than 10 percent, was a reanalysis performed to confirm %R?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.			✓	
Was a MS/MSD analyzed every 20 samples of each matrix?			✓	
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			
Was an LCS analyzed per extraction batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			

LDC #: 17475J
SDG #: see cover

VALIDATION FINDINGS CHECKLIST

Page: 2 of 2
Reviewer: PJ
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?			✓	
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Target compound identification				
Were the retention times of reported detects within the RT windows?	✓			
XI. Compound quantitation/CRQLs				
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XII. System performance				
System performance was found to be acceptable.	✓			
XIII. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XIV. Field duplicates				
Field duplicate pairs were identified in this SDG.		✓		
Target compounds were detected in the field duplicates.			✓	
XV. Field blanks				
Field blanks were identified in this SDG.		✓		
Target compounds were detected in the field blanks.			✓	

LDC # 17471C51
SDG# per cover

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: FT
2nd Reviewer: cl

METHOD: RSK-175

Parameter: methane methane

Date	Column	Compound	X	Y	X^2
05/15/2007	front-TCD	methane	1000.000	2109.000	
			5000.000	11501.000	
			10000.000	25221.000	
			100000.000	261792.000	
			5.00E+005	1299049.000	

Regression Output:	Regression Output:	Reported	
Constant	0.00000		0.00E+000
Std Err of Y Est	1307.30515		
R Squared	0.99999		1.0000E+000
No. of Observations	5.00000		
Degrees of Freedom	4.00000		
X Coefficient(s)	2.599E+000		2.599E+000
Std Err of Coef.	0.002563		

LDC #: 17471C51
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Reviewer: MT
2nd Reviewer: A

METHOD: GC ✓ HPLC ____

The percent difference (%D) of the initial calibration average Calibration Factors (CF) and the continuing calibration CF were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. CF - CF)/ave. CF
CF = A/C

Where: ave. CF = initial calibration average CF
CF = continuing calibration CF
A = Area of compound
C = Concentration of compound

#	Standard ID	Calibration Date	Compound	Average CF(Ical)/ CCV Conc.	Reported CF/Conc. CCV	Recalculated CF/Conc. CCV	Reported %D	Recalculated %D
1	CCV	6/18/07	methane	10000	10822	10822	8.2	8.2
	8:53AM							
2								
3								
4								

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 17471c5 1
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample/Laboratory Control Sample Duplicate Results Verification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ✓ GC __ HPLC

The percent recoveries (%R) and Relative Percent difference (RPD) of the laboratory control sample and laboratory control sample duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100* (SSC-SC)/SA
RPD = | LCS - LCSD | * 2/(LCS + LCSD)

Where: SSC = Spiked sample concentration
SA = Spike added
LCS = Laboratory control sample percent recovery
SC = Concentration
LCSD = Laboratory control sample duplicate percent recovery

LCS/LCSD samples: LCSID 6/18/07

Compound	Spike Added (ppm)		Spiked Sample Concentration (ppm)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
Gasoline (8015)										
Diesel (8015)										
Benzene (8021B)										
Methane (RSK-175)	7000	7000	6836.6 98	6851.2	98	98	99	98	0.2	0.2
2,4-D (8151)										
Dinoseb (8151)										
Naphthalene (8310)										
Anthracene (8310)										
HMX (8330)										
2,4,6-Trinitrotoluene (8330)										

Comments: Refer to Laboratory Control Sample/Laboratory Control Sample Duplicate findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 17471C5 1
SDG #: All cover

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: ___ GC ___ HPLC

Y N N/A Were all reported results recalculated and verified for all level IV samples?
Y N N/A Were all recalculated results for detected target compounds within 10% of the reported results?

Concentration= $\frac{(A)(Fv)(Df)}{(RF)(Vs \text{ or } Ws)(\%S/100)}$

A= Area or height of the compound to be measured
Fv= Final Volume of extract
Df= Dilution Factor
RF= Average response factor of the compound in the initial calibration
Vs= Initial volume of the sample
Ws= Initial weight of the sample
%S= Percent Solid

Example:

Sample ID. #1 Compound Name Methane

Concentration = _____

$y = 2.5988(x)$

$85530 = 2.5988(x)$

$x = 32911.340$

ppmv = 0.0329340

#	Sample ID	Compound	Reported Concentrations	Recalculated Results Concentrations	Qualifications
	mg/L gas H2S	= 0.0329340 (55.51) (16.04) (1000) / 41300		= 0.70957	
	gas in liquid	= 0.0329340 (16.04) (4) x 1000 / (22.4)(36) 298/273		= 2.3916788	
			Total =	3.108585 mg/L	
			=	3109 ug/L	

Comments: _____